

CLAIMS

What is claimed is:

1. An apparatus for sealing a conduit comprising:

(a) a housing having an inner chamber and an outer surface;

5 (b) at least one free running hub disposed on, and mounted to, said housing adapted for coupling to at least one end of the conduit; and

(c) a flexible membrane disposed within the inner chamber of said housing adjacent to said at least one free running hub.

10 2. An apparatus for sealing a conduit according to claim 1, further comprising means for purging any air, other gases or moisture, which may be trapped within the inner chamber of said housing.

3. An apparatus for sealing a conduit according to claim 2, wherein the purging means comprises a threaded port formed in the housing and a threaded plug, which is adapted to mate with said threaded port.

15 4. An apparatus for sealing a conduit according to claim 2, wherein the purging means comprises a spring-loaded ball-type valve.

5. An apparatus for sealing a conduit according to claim 1, wherein the housing is defined by a mid-section, which is substantially cylindrically shaped, and two free running hubs are disposed on, and mounted to, opposite ends of the mid-section.

6. An apparatus for sealing a conduit according to claim 5, wherein the free running hubs are partially conical in shape and have an inside surface, which has a first set female threads formed thereon for mating with the ends of the conduit.

7. An apparatus for sealing a conduit according to claim 6, wherein the inside surface of the free running hubs has a second set of female threads formed thereon for mating with the ends of the cylindrically-shaped mid-section and a shoulder adjacent to the second set of female threads.

8. An apparatus for sealing a conduit according to claim 7, wherein a flexible membrane is disposed on the inside surface of each of the free running hubs adjacent to the shoulder.

9. An apparatus for sealing a conduit according to claim 1, further comprising a polyurethane-based epoxy sealant compound disposed within said inner chamber.

10. An apparatus for sealing a conduit according to claim 9, wherein the polyurethane-based epoxy sealant compound comprises a polymer and a monomer.

11. An apparatus for sealing a conduit according to claim 1, wherein the housing is formed of an aluminum alloy.

12. An apparatus for sealing a conduit according to claim 1, wherein the flexible membrane is generally disk-shaped, formed of neoprene and has at least one opening for accommodating one or more cables.

13. A method of sealing a conduit using the apparatus of claim 1, comprising the steps of:

(a) coupling said apparatus to at least one end of the conduit;

(b) threading any wires or cables contained within said conduit through said

5 flexible membrane; and

(c) filling the inner chamber with a polyurethane-based epoxy sealant compound.

14. A method of sealing a conduit according to claim 13, further comprising the step of releasing any air, other gases, or moisture, which may be trapped in the inner  
10 chamber after it is filled with the epoxy sealant compound, through a purging means.

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